

Calculus Questions

1. Why are limits needed to understand the behavior of the function $f(x)$ as x approaches infinity?
2. If a car travels 60 miles in one hour, do you know that the car traveled *exactly* 60 miles per hour at any point during its trip? How would you explain your response using ideas from calculus?
3. Why is understanding rates of change important outside the field of calculus?
4. What example in the real world illustrates where asymptotes would describe a physical phenomenon?
5. What is the relationship between the formal limit definition of the derivative and the power rule?
6. Starting with the gravitation constant of acceleration, what is an effective explanation of how to find the position of a falling object?
7. When considering the maximum value a function takes on, why do we need calculus to determine where this occurs?
8. How would you explain why an infinite series is needed to find the integral of function using Riemann sums?
9. What are at least three functions that we can integrate using only geometry?
10. Why is calculus important for the understanding of probability?

More questions: